

### Sampling of Cereal Products

M. H. Neustadt, *chairman*; Maxwell Cooley, H. H. Kaufmann, Edward B. Liebe, Bradley T. Skeels, Lawrence Zeleny

### Sanitation Methods

O'Dean Kurtz, *chairman*; Elsie Andrina, Edward Bonham, Ann Collins, John V. Corbishley, M. P. De Figueiredo, Gerald J. Desmond, Harold J. Goossens, John V. Halick, Kenton L. Harris, Edward J. Hueckel, Robert Kilborn, Lauren G. Louderback, Paul J. Marek, Thomas H. McCormack, Joseph L. Owades, Leota Par-rack, Marlys Prosch-Jensen, James Rutledge, Clyde J. Steele, Carl E. Turner, Shirley Young

### Sedimentation Test

Walter T. Greenaway, *chairman*; Donald Abbott, Marvin E. Armour, Howard C. Becker, E. E. Chapman, Ralph Durr, John W. Giertz, John C. Halverson, William L. Heald, Henry Kaufmann, James Lamkin, Edward Liebe, Paul Mattern, Claude D. Neill, D. Paul Ochs, E. J. Rosse, Jeff Schlesinger, Leonard D. Sibbitt, Bradley T. Skeels, Eldon Smurr, James W. Whitacre, Martin Wise

Collaborators: Miss Micolas, Cambridge, England; M. J. Lane, Perth, West Australia, Seven District Supervisors of Grain Division, C & MS, USDA

### Soybean Analysis

Endre Sipos, *chairman*; J. C. Enyart, Kenneth Holt, C. A. Krober, E. K. Olson, J. J. Rackis

### Starch and Pentosans

Darrell G. Medcalf, *chairman*; John V. Corbishley, Fed-or I. Donchenko, Francis E. Kite, Barrett L. Scallet, Thomas J. Schoch, Paul S. Smith, William F. Sollars, William T. Yamazaki, E. M. Ziegenfuss

### Statistics and Experimental Error

John P. Woolcott, *chairman*; Ronald E. Arbuckle, B. E. Brown, Bruce A. Drew, James Livingston, W. O. S. Meredith, Jeff Schlesinger, Edwin L. Sexton, Velt Staf-ford, Frank W. Wichser

### Sugar Analysis

Kenneth J. Goering, *chairman*; J. D. Commerford, L. J. Denault, R. J. Dimler, J. T. Garbutt, K. A. Gilles, Gor-don E. Miller, E. L. Powell

### Test Baking

Lucien Rose, *chairman*; Donald Abbott, Richard Andt, Fred Barrett, J. W. Doty, Bernard Entner, C. C. Fifield, Jacob Freilich, Donald W. Hatch, Phillip Jacobsen, Les-lie Longshore, Robert E. McCormick, H. E. McMillen, S. N. Vilm, Frank W. Wichser, William H. Ziemke

### Vitamin Analysis

Mary Regulski, Beate Feller, *co-chairmen*; Welker Bech-tel, Ann Collins, Elmer de Ritter, C. B. Gustafson, O. W. Jennings, Robert Moffitt, A. W. Nelson, James Panton, W. Schwecke, Carl Wayo, Eliot Ziegenfuss

Collaborator: Alice Strangway

# CEREAL SCIENCE TODAY

## Volume 10 1965

### Author Index, Volume 10, 1965

	Page		Page
Airth, J. M.	224	Gastrock, E. A.	572
Anderson, R. A.	106	Gatty, R.	544
Badenhuiizen, N. P.	26	Gerrity, A. B.	434
Baldin, R. R.	452	Geminder, J. J.	425
Baltimore, M. A.	72	Giddey, C.	516
Bass, E. J.	3, 31, 65, 78, 207, 239, 352, 367, 401, 495, 531, 569	Gilles, K. A.	226, 350
Bell, R. L.	438	Goding, J. B.	496
Bellard, Nancy	590	Gordon, A. L.	556
Bequette, R. K.	72	Gross, H.	438
Berck, B.	112	Habighurst, A. B.	53
Blake, J. D.	9	Haley, W. L.	587
Brabender, C. W.	291	Hammes, P. A.	587
Bradley, W. B.	25, 263	Haney, H. N.	53
Brockington, S. F.	556	Hardwick, W. A., Jr.	496
Brooks, E. M.	41	Harris, K. L.	246, 547
Brussman, J. A.	496	Hegsted, D. M.	257
Bushuk, W.	402	Henika, R. G.	420
Chamberlain, N.	412, 415	Hetzl, C. P.	425
Claus, W. S.	41	Hibbs, R. A.	212
Collins, T. H.	412, 415	Hildebrand, F. C.	243
Coppock, J. B. M.	406	Hlynka, K.	25, 84
Cotton, R. H.	354, 544	Hofstrand, Joyce T.	212
Dahlstrom, R. V.	466	Hollenbeck, C. M.	368
D'Aquin, E. L.	572	Holmes, W. H.	220
Dickson, A. D.	284	Horan, F. E.	14
Dubois, D. K.	556	Hughes, F. J.	6, 50
Durham, R. K.	253	Hullinger, C.	508
Eggitt, P. W. R.	406	Irvine, G. N.	328, 402
Elton, C. A. H.	412, 415	Johansen, R. G.	452
Enari, T.-M.	594	Johnson, J. A.	315
Feldberg, C.	18	Johnston, W. R.	385, 431
Ferrel, R. E.	587, 590	Joiner, R. R.	32
Finkel, G.	539	Jones, W. L.	471
Flanders, T. E.	32	Keating, E. J.	572
Fortmann, K. L.	434	Keogh, W. J.	452
Frampton, V. L.	577	Kilborn, R. H.	402
		Koch, R. B.	6, 25
		Koedding, D.	452
		Krishnamoorthi, V.	572
		Litchfield, J. H.	458
		Luke, K. W.	80
		MacMasters, Majel M.	268
		Mauseth, R. E.	431
		McGinnis, J.	583
		McPherson, D. G.	511
		Meckel, R. B.	220
		Miller, B. S.	44, 80, 394, 552
		Moffit, R. A.	534
		Moran, E. T.	583
		Nees, J. L.	431
		Parker, H. K.	272
		Paulsen, Twila M.	14
		Pearce, S. J.	534
		Pearcy, G.	50
		Pence, J. W.	587, 590
		Peplinski, A. J.	106
		Pfeifer, V. F.	106
		Pomeranz, Y.	600
		Potter, Gretchen L.	215
		Powell, K. R.	44
		Ramstad, P. E.	61, 93, 99, 226, 240, 351
		Redfern, S.	438
		Reed, G.	226
		Rosen, G. D.	68, 100, 209
		Russell, T. S.	532
		Russell Eggitt, P. W.	406
		Sachsel, G. F.	458
		Sampson, B. A.	544
		Sandstedt, R. M.	305
		Schlesinger, J. S.	374
		Schwaiger, J.	496
		Swain, F. R.	277
		Senti, F. R.	320
		Shellenberger, J. A.	260
		Shepherd, A. D.	590
		Simmonds, D. H.	9
		Singleton, A. D.	53
		Smith, A. K.	345
		Snell, P. E.	434

	Page
Sullivan, Betty	338
Tessem, B. M.	6, 50
Thomas, P. D.	425
Titcomb, S. T.	452
Traubel, I.	434
Treloar, A. E.	333
Trimbo, H. B.	80
Tsantir, K.	50
Vidal, F. D.	32
Vix, H. L. E.	572
Von Eschen, E. L.	84
Waldt, L. M.	447
Yamahiro, R. W.	80
Zaehring, Mary V.	212, 215

## Subject Index, Volume 10, 1965

<b>AACC articles</b>	
The first fifty years (AACC history)	121
The first fifty years!	243
AACC's next fifty years	354
The role of an association	240
<b>AACC awards</b>	
C. W. Brabender award	390
Geddes Award to Doty	83
Honorary membership to Brabender	83
<b>AACC committees</b>	
Administrative, 1965-66	524
Official reports for 1964	186
51st Annual Meeting Section	
Chairmen	525
Technical, 1965-66	608
<b>AACC Local Sections</b>	
Local Section News	27, 60, 88, 199, 228, 355, 393, 476, 524, 559, 604
Local Section officers	476
Local Section officers and committee appointments	351
<b>AACC meetings and programs</b>	
AACC returns to Kansas City	4
Annual meetings: editorial	531
50th Annual Meeting; final program and abstracts of papers	133
50th Annual Meeting in photos	375
Golden anniversary program	78
Preliminary program, 50th Annual Meeting	45
What kind of annual meeting?	552
<b>AACC membership</b>	
Face of the AACC	
Donald C. Abbott	601
Shozo Akutsu	601
Ralph H. Durr	519
John Halverson	555
Virdell E. Munsey	555
William C. Shuey	555
New AACC members	478, 560
<b>AACC publications</b>	
Cereal Chemistry: history and future prospects	350
Cereal Science Today: role in AACC	352
The first fifty years!	243
The role of an association	240
<b>AACC Reports, Official</b>	
Minutes of 50th annual business meetings	394
Official reports for 1964	186
<b>AACC Reports, Unofficial</b>	
Change and expansion - 1965	490
Directors' meeting in Chicago	559
Oilseeds division established	524
President's Corner	61, 93, 354, 394
Abstracts, 50th Annual Meeting	141
Alfalfa: metamorphosis in global nutrition	100
<b>Amino acids</b>	
Protein promise in corn	24
Wheat: challenge to nutritionists (50-year summary)	257
<b>Antibiotics</b>	
Metamorphosis in nutrition	100
Supplements to improve nutritional value of barley and corn	583
<b>Apparatus</b>	
For continuous mixing	406
Flour moisture meter	50
Humidity elements for measuring	

flour moisture	6
Lab mixer for continuous bread-making	402
Loaf-softness tester	84
Malting techniques	496
Physical dough-testing (50-year summary)	291
For solvent-extraction process for cottonseed	572
Spray-dryer for whey	53
<b>Artificial edible structures, from non-animal proteins</b>	516
<b>Authors and authorship</b>	
Letters to the Editor	26, 66
Statistical presentation in papers	532
What kind of annual meeting?	552
<b>Azodicarbonamide; evaluation</b>	32
<b>Bakery products</b>	
Corn gluten: new ingredient	18
Functional properties of cheese whey in biscuits and doughnuts	215
Progress in wheat and flour testing (50-year summary)	253
Whey products: adapting to the bakery	53
Sensory boards: statistical problems	544
<b>Baking technology (see also Continuous breadmaking)</b>	
Azodicarbonamide: evaluation	32
Baking method for the West	
African market	220
Continuous mixing and baking (50-year summary)	272
Instantized flours: characteristics	41
Instantized flours: comments	44
Progress (50-year summary)	263
Whey products: adapting to bakery operations	53
<b>Barley</b>	
Changes in barley proteins during malting	9
Chemical factors affecting germination	368
Composition of albumins and globulins	594
Malting techniques: a review	496
Nutritional value improved by antibiotic and enzyme supplements	583
Physical factors in germination	466
Progress (50-year summary)	284
<b>Biscuits; functional properties of cheese whey</b>	215
<b>Book reviews</b>	
Advances in enzymology, vol. 26; F. F. Nord, ed.	226
Biochemistry of grain and breadmaking (Biokhimiya i Khlebopecheniya), ed. by F. L. Kretovich	000
Broodverbruik in Nederland (Bread consumption in The Netherlands): a report	26
Chemistry of wheat starch and gluten, by J. W. Knight	556
Composition of foods - raw, processed, prepared: Agriculture Handbook No. 8 (rev. ed.), by Bernice K. Watt and Annabel L. Merrill	226
Dust hazards in the starch and extrine industries, by J. M. Faulds	226
Food quality - effects of production practices and processing, ed. by G. W. Irving, Jr., and Sam R. Hoover	556
Handbook of chemistry and physics, 45th ed.; Robert C. Weast, ed.	25
Nutrition - a comprehensive treatise; G. H. Beaton and E. W. McHenry, eds.	25
Proteins, their chemistry and politics, by A. M. Altschul	556
Some general principles of bakery planning, by D. E. Chapman and (Miss) E. M. Laing	25

<b>Bread and breadmaking (see also Continuous breadmaking)</b>	
Baking method for the West	
African market	220
Corn gluten: new ingredient	18
Irradiated flour and organoleptic quality	80
Loaf-softness tester	84
Progress in conventional baking (50-year summary)	263
Progress in testing (50-year summary)	253
Soya flours: functional characteristics	14
Weight variation in Canadian bread	224
<b>Bulgur</b>	
Commercial: composition	587
Nutrient composition	590
<b>Cakes</b>	
Corn gluten: new ingredient	18
Irradiated flour and organoleptic quality	80
<b>Cereals and cereal products</b>	
Fumigation: research and practice	112
Metamorphosis in global nutrition	100
<b>Cereal chemists</b>	
The first fifty years	121
The role of an association	240
<b>Cereal grains</b>	
Industrial utilization (50-year summary)	320
Metamorphosis in nutrition	100
<b>Chemical industry: nutrition - global metamorphosis</b>	68, 100, 208
<b>Chorleywood process, see Continuous breadmaking</b>	
<b>Communications: editorial</b>	65
<b>Continuous breadmaking</b>	
Approach to continuous mixing	406
Chorleywood process: effects of fat	415
Chorleywood process: recent developments	412
Continuous mixing and baking (50-year summary)	272
Cysteine, whey, and oxidant reactions	420
Editorial	401
Effect of high flour levels in fermentations	434
Effect of milk and flour in broth	431
Effect of oxidant type and level	438
Effects of sodium stearyl fumarate	425
Fat systems	452
Role of fungal enzymes	447
Studies with lab mixer	402
<b>Corn</b>	
Corn gluten: new baking ingredient	18
Corn starch: industrial utilization	320
Nutritional value improved by antibiotic and enzyme supplements	583
Protein promise	24
<b>Dough: physical testing (50-year summary)</b>	291
<b>Dough improvers: sodium stearyl fumarate in continuous breadmaking</b>	425
<b>Doughnuts: functional properties of cheese whey</b>	212
<b>Editorials</b>	3, 31, 65, 99, 207, 239, 367, 401, 495, 531, 571
<b>Enzymes</b>	
Enzymes in wheat technology (50-year summary)	315
Role of fungal enzymes in continuous breadmaking	447
Supplements to improve nutritional value of barley and corn	583
Technology and protein malnutrition	458
<b>Factorial design: a practical approach</b>	539
<b>Farinograph studies</b>	
Evaluating azodicarbonamide	32
Soya flour: functional characteristics	14

	Page		Page		Page
<b>Fats (see also Shortenings)</b>		<b>Millfeeds</b>	385	<b>Composition of albumins and globulins of barley</b>	594
Metamorphosis in global nutrition	68, 100	Irradiation of flour and wheat	80	Metamorphosis in agriculture	68
Systems in continuous mix	452	Lab management conversations	511, 547	Protein promise in corn	24
<b>Feeds, see Nutrition, animal</b>		Letters to the Editor	26, 66, 203, 227	Soybean protein research (50-year summary)	345
<b>Fiber production; controlled environmental production</b>	374	<b>Lipoprotein: metamorphosis in global nutrition</b>	100	Status of cottonseed proteins for nonruminants	577
<b>Fifty years of progress</b>		<b>Malt and malting</b>		Technology and protein malnutrition	458
Barley and malt chemistry	284	Barley germination: chemical factors	368	Wheat protein research (50-year summary)	338
Carbohydrate and starch chemistry	305	Barley germination: physical factors	466	<b>Psychological testing: editorial</b>	31
Conventional baking	263	Changes in barley proteins during malting	9	<b>Research</b>	
Durum wheat	328	Current techniques: a review	496	Controlled environmental production	374
The first fifty years!	243	<b>Malting: 50-year summary</b>	284	Durum wheat (50-year summary)	328
Food hygiene	246	<b>Management</b>		The first 50 years!	243
Enzymes in wheat technology	315	Management training for scientists? editorial	367	Fumigation of cereals and cereal products	112
Fats and oils	277	Science in management: editorial	3	Metamorphosis in global nutrition	68, 100, 208
Industrial utilization of cereal grains	320	<b>Maturing agents: evaluation of azodicarbonamide</b>	32	Protein malnutrition	458
Milling advances	260	<b>Microorganisms: metamorphosis in global nutrition</b>	100, 210	Soybean proteins (50-year summary)	345
Physical dough testing	291	<b>Microscopy (50-year summary)</b>	268	Wheat proteins (50-year summary)	338
Soybean protein research	345	<b>Milk: effect in continuous dough system</b>	431	<b>Sanitation: food hygiene (50-year summary)</b>	246
Statistics	333	<b>Milk, dry, see Nonfat dry milk</b>		<b>Sensory tests</b>	
Wheat: challenge to nutritionists	257	<b>Millfeeds: a conversation</b>	385	Baked goods; statistical problems	544
Wheat and flour testing	253	<b>Milling</b>		Biscuits; functional properties of cheese whey	215
Wheat kernel morphology and microscopy	269	Advances (50-year summary)	260	<b>Shortenings</b>	
Wheat protein research	338	Wheat weight per bushel and flour yield	72	Fat systems for continuous breadmaking	452
<b>Flour</b>		<b>Moisture</b>		Fats and oils (50-year summary)	277
Continuous mixing and baking (50-year summary)	272	Flour moisture vs. chlorine changes	471	Improving effects in Chorleywood Process	415
Effect in continuous dough system	431	Flour moisture meter: evaluation	50	<b>Sodium stearyl fumarate; effects in continuous breadmaking</b>	425
Effect of high levels in liquid ferments	434	Humidity elements for measuring flour moisture	6	<b>Sorghum grain: industrial utilization</b>	320
Evaluating azodicarbonamide	32	<b>Neurology</b>		<b>Soybean products</b>	
Flour temperature vs. chlorine changes	471	Michael Lazorchak	230	Soya flour; functional characteristics	14
Gluten and starch from long-extraction flour	106	Franz R. Leipen	89	Soybean protein research (50-year summary)	345
Humidity elements for measuring moisture	6	Fred Smith	89	<b>Starch</b>	
Instantized: characteristics	41	Joseph K. L. Snyder	230	Alsberg Memorial Lectureship	603
Instantized: comments	44	Ralph M. Stevenson	89	Industrial utilization of cereal grains (50-year summary)	320
Irradiated: organoleptic quality of cake and bread	80	Edgar L. Ulrey	20	Starch chemistry (50-year summary)	305
Moisture meter: evaluation	50	Robert R. Williams	606	Starch film and coating	508
Progress in testing (50-year summary)	253	<b>Nonfat dry milk; whey products: adapting to the bakery</b>	53	Starch from long-extraction flours	106
Soya: functional characteristics	14	<b>Nutrition, animal</b>		<b>Statistics</b>	
Yield, vs. wheat weight per bushel	72	Antibiotic and enzyme-supplemented barley and corn	583	Progress (50-year summary)	333
<b>Flour improvers</b>		Solvent-extraction process for cottonseed meal	572	Statistical books listed	61
Chorleywood process: recent developments	412	Status of cottonseed proteins for nonruminants	577	<b>Statistical analysis</b>	
Continuous breadmaking with lab mixer	402	<b>Nutrition, human</b>		Analysis of variance: pesticide data	534
Effect in continuous breadmaking	438	Editorial	495	Factorial design	539
Flour temperature and moisture vs. chlorine changes	471	The first 50 years!	243	Sensory boards for baked goods	544
Progress (50-year summary)	253	Metamorphosis in agriculture and global nutrition	69, 100, 208	Statistical presentation in papers	532
Reactions in continuous mix	420	Technology and protein malnutrition	458	Weight variation of Canadian bread	224
<b>Food, synthetic: artificial edible structures</b>	516	Wheat: challenge to nutritionists (50-year summary)	257	<b>Structure, microscopic</b>	
<b>Food &amp; Drug Administration</b>		Whey products in the bakery	53	Of starch granules (50-year summary)	305
Anatomy of a prosecution	503	<b>Oilseeds</b>		Of wheat kernel (50-year summary)	269
Food hygiene (50-year summary)	246	Solvent-extraction process for cottonseed meal	572	<b>Sugars: metamorphosis in global nutrition</b>	68
Food hygiene (50-year summary)	246	Status of cottonseed proteins for nonruminants	577	<b>Toxic substance: gossypol</b>	
<b>Food industry: global metamorphosis in nutrition</b>	68, 100, 208	<b>Oxidants; effect in continuous breadmaking</b>	420, 438	Extraction from cottonseed	572
<b>Food production; controlled environment</b>	374	<b>Peanuts: metamorphosis in global nutrition</b>	100	Factor in protein nutrition for nonruminants	577
<b>Fumigation of cereals and products; research and practice</b>	112	<b>People, Products, Patter</b>	20, 56, 89, 200, 228, 357, 395, 481, 520, 563, 605	<b>Washington Newsletter</b>	604
<b>Gluten</b>		<b>Pesticides: statistics for pesticide analysis</b>	534	<b>Weight per bushel; relation to flour yield</b>	72
Corn gluten, new baking ingredient	18	<b>Physical dough testing (50-year summary)</b>	291	<b>Wheat: 50-year summaries</b>	
Gluten from long-extraction flours	106	<b>Poultry production: metamorphosis in global nutrition</b>	100	Challenge to nutritionists	257
Wheat and flour testing (50-year summary)	253	<b>President's Corner</b>	61, 93, 354, 394	Durum	328
<b>Gossypol: cottonseed component</b>	572, 577	<b>Presidential Address</b>	240	Enzymes in wheat technology	315
<b>Grain structure: wheat kernel morphology and microscopy (50-year summary)</b>	268	<b>Protein</b>		Kernel morphology and microscopy	268
<b>Insect infestation</b>	246	Artificial edible structures from nonanimal protein	516	Progress in testing	253
<b>Instantized flour</b>		Changes in barley proteins during malting	9	Protein research	338
Characteristics	41				
Comments	44				
<b>Interviews</b>					
Lab management	511, 547				



*Merry Christmas  
and  
Happy New Year  
from  
All of Us*



**FEE**

**ROSSE**

**CHAPMAN**

**MIKKELSON**

**J. DUESENBERG**

**BROCKMAN - FALK**

**W. - DOTY - JENNINGS**

**TOWNSEND - SCHONLAU**

**HARDY - MOMBERG - HAYES**

**PATAKY - STOKLEY - MATHES**

**LUCKING - SELDERS - JACKSON**

**PAUL - KIRGAN - JOHN - ANDERSON**

**MICHIO - UCHIDA**

**D  
O  
T  
Y**

**LABS. INC**

*Me too!*

*Jim Doty*

	Page
<b>Wheat</b>	
Fumigation: research and practice	112
Irradiated: organoleptic quality of cake and bread	80
Millfeeds: a conversation	385
Weight per bushel and flour yield	72
<b>Whey</b>	
Dried whey products: adapting to the bakery	53
Functional properties in biscuits	215
Functional properties in dough-nuts	212
Reaction in continuous mix	420
"30"	94

## CLASSIFIED

### PROFESSIONAL DIRECTORY

O'DEAN L. KURTZ, *Technical Director*

## SAN-SERV

Food Plant Sanitation Division  
**INSECT CONTROL AND  
RESEARCH, INC.**  
**FDA Consultation**

Sanitation Surveys, Inspections,  
Testing, Training

1111 N. Rolling Rd.  
Baltimore, Md.

Phone: RI 7-4500  
Area Code: 301

### POSITIONS OPEN

#### SENIOR CHEMIST

With a Master's Degree in Cereal Chemistry and a minimum of 3 to 5 years experience in food, organic or biochemistry. Should be able to conduct difficult chemical analyses in the field of bakery technology.

Replies will be held in strict confidence. Send resume to:

Personnel Manager  
**AMERICAN MACHINE &  
FOUNDRY CO.**

Bakery Machinery Division  
2115 West Laburnum Avenue  
Richmond, Virginia 23227

#### BAKING TECHNOLOGIST

Offer excellent opportunity for man with substantial practical experience in bread and rolls and broad understanding of methods and problems in the largest bakeries. Must be sales-minded personality suitable for position as Technical Consultant for Sales Department. College or equivalent, preferably with degree in chemistry, food technology or biochemistry. Should communicate well verbally and in writing. Salary open. Write T. H. Hanson, 1300 Investors Building, Minneapolis, giving complete resume. All replies held strictly confidential.

**INTERNATIONAL  
MILLING COMPANY**

*"An Equal Opportunity Employer"*

